



Australian Government

UEPOPS059 Manage, operate and monitor a gas turbine unit

Release: 1

UEPOPS059 Manage, operate and monitor a gas turbine unit

Modification History

Release 1. This is the first release of this unit of competency in the UEP Electricity Supply Industry - Generation Sector Training Package Release 2.0.

Application

This unit involves the skills and knowledge required to undertake the management of an in-service gas turbine unit.

A gas turbine is an internal combustion engine that converts natural gas or other liquid fuels to mechanical energy.

Competency in this unit requires the ability to plan work, operate gas turbine plant, test gas turbine plant, analyse gas turbine plant faults, monitor gas turbine plant and complete all documentation. Individuals will, in general, work as a frontline manager or supervisor, in a power generation facility.

Power generation plant operators are trained and authorised to isolate, prepare plant and issue permits to work.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

There are no prerequisite units

Competency Field

Operations

Unit Sector

Electricity generation

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

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|---|---|
| 1 Plan and prepare work | 1.1 Work health and safety (WHS)/occupational health and safety (OHS) regulations, legislative requirements, codes of practice, manufacturers' recommendations and specifications, environmental requirements and workplace procedures are identified, applied and monitored |
| | 1.2 Work requirements are identified from relevant personnel and documentation in accordance with workplace procedures |
| | 1.3 Preoperational checks are carried out on gas turbine plant in accordance with manufacturers' recommendations and specifications, and workplace procedures |
| 2 Operate gas turbine plant | 2.1 Output is adjusted to achieve required gas turbine operating conditions and demand in accordance with workplace procedures |
| | 2.2 Gas turbine plant is operated within limits of the design in accordance with workplace procedures |
| | 2.3 Gas turbine plant is monitored and observed to detect deviations from operating conditions in accordance with workplace procedures |
| | 2.4 Corrective actions are taken to rectify gas turbine plant abnormalities in accordance with manufacturers' recommendations and specifications, and workplace procedures |
| 3 Test and analyse gas turbine plant operation | 3.1 Operational tests are performed in accordance with workplace procedures |
| | 3.2 Gas turbine plant is observed for correct operational response in accordance with workplace procedures |
| | 3.3 Gas turbine plant is returned to required operational status upon completion of testing in accordance with workplace procedures |
| | 3.4 Causes of abnormal gas turbine plant operating conditions are identified by analysing technical and operational information in accordance with workplace procedures |
| 4 Monitor gas turbine plant | 4.1 Gas turbine plant is monitored for normal operation and to detect deviations in accordance with workplace |

procedures

- 4.2 Relevant personnel are notified when defects are detected in accordance with workplace procedures

5 Complete documentation

- 5.1 Gas turbine plant problems, movements and status are reported in accordance with workplace procedures
- 5.2 Documentation is updated in accordance with workplace procedures

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEP Electricity Supply Industry - Generation Sector Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to UEPOPS336 Manage, operate and monitor a gas turbine unit.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=1715b9fa-e7bd-441c-bb8d-cf22c9c825a8>

Assessment Requirements for UEPOPS059 Manage, operate and monitor a gas turbine unit

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Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria on at least two separate occasions and include:

- analysing gas turbine plant faults using data analysis techniques and tools
- applying work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - emergency procedures
 - risk control measures
 - safe working practices
- communicating with personnel
- completing documentation
- identifying gas turbine plant status
- implementing regulations, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- interpreting manuals
- monitoring gas turbine plant operations
- organising resources
- planning work
- preparing and operating gas turbine plant and equipment
- recognising and responding to abnormal gas turbine plant operating conditions
- testing gas turbine plant operationally using diagnostic and testing techniques
- working with permit to work system.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all the requirements of the elements and performance criteria and include knowledge of:

- arrangements of power production
- gas turbine plant and equipment, location and operating parameters
- gas turbine plant generator types and characteristics, including:
 - system components and interaction

- gas turbine operational processes
- gas turbine plant status
- manuals
- regulations, legislative requirements, codes of practice, manufacturers' recommendations and specifications, and environmental requirements
- permit to work system
- WHS/OHS requirements, including:
 - emergency procedures
 - risk control measures
 - safe working practices
- workplace documentation
- workplace policies and procedures.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (PPE) currently used in industry
- applicable documentation, including workplace procedures, equipment specifications, regulations, codes of practice and operation manuals.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=1715b9fa-e7bd-441c-bb8d-cf22c9c825a8>